

JC14 Rec'd PCT/PTO 19 MAY 2005

METHOD FOR PRODUCING A BULLET, BULLET PRODUCED ACCORDING TO  
SAID METHOD AND AMMUNITION PROVIDED WITH SAID BULLET

FILED OF THE INVENTION

The invention relates to ammunition for fire and pneumatic smooth-bore weapon and can be used for producing bullets for cartridges of hunting and sporting guns.

BACKGROUND ART

An arrow-shaped bullet is known from the prior art. This bullet is produced from a solid bar the front part of which is taper turned and the rear part of which is deformed to create an aerodynamic empennage performed as longitudinal surfaces (see Reference 1).

The drawback of the method for producing this bullet is its low processability.

A method for producing an arrow-shaped bullet is known from the prior art, that is chosen as the closest prior art (see Reference 2).

The known method comprises the steps of deforming the rear part of a tubular blank to create an aerodynamic empennage and inserting a functional filling (core) in the tube's cavity.

The rear part of a tubular blank is deformed by inelastic deformation (plastic flow) of the tube's material, and the thickness of the tube's walls is altered.

After the empennage is composed, a core is inserted in the tube's cavity.

A core can have a granular or jelly filling, e.g. a load released at the moment the bullet hits the target.

This core is kept in the tube's cavity by friction or capillary forces.

This method is not used for inserting solid, e.g. metal cores.

The drawback of the method is its low processability.

A bullet produced by this method cannot be used for killing a target at commercial or sport hunting.

A cartridge comprising a shell having means for inflammation, a propelling charge, a damage agent, and one or more wads is also known from the prior art (see Reference 3).

The drawback of this cartridge is that it is not possible to use arrow-shaped bullets therein.

## DESCRIPTION OF THE INVENTION

The object of the present invention is to remove the above drawbacks, namely, to develop a highly processable method for producing a bullet suitable for killing different kinds of targets and having low aerodynamic resistance, and also to develop an ammunition (cartridge) in which this bullet is used.

In order to achieve this object, in the method for producing an arrow-shaped bullet that comprises the steps of deforming the rear part of a tubular blank to create the aerodynamic empennage and inserting a core inside the front part of the tubular blank, the core is inserted in said tubular blank before the deformation thereof, said core is fastened inside said blank by simultaneous deformation of the front and rear parts of the blank, said deformation is carried out by pressing the blank wall without altering the thickness thereof.

The second object of the invention is a bullet produced by the method described above.

In the preferred embodiments of the invention, the deformation is carried out by longitudinally clamping the blank between two crimping matrixes.

In order to keep the bullet inside the ammunition and while it moves up the bore in the front part of the core, an extractor is made in the core's material, and the core is inserted in the blank, the extractor protruding beyond the edge of the blank to make it possible to clamp the front part of the latter.

The extractor is performed to be geometrically coupled with the muzzle wad.

When the material of the core is produced as a combination of a metal armoring rod and a soft filling, the extractor is made of the metal of the core's rod.

The extractor is performed in the form of an aerodynamic needle in order to improve the bullet's aerodynamic properties.

The core is performed as a set of damage agents in order to increase the damage effect of the bullet.

The other object of the invention is an ammunition comprising a shell with a means of inflammation, a propelling charge, one or more wads, and a damage agent being one or more bullets produced by the method described above.

To fasten a damage agent in the ammunition, a securing spring is further produced that repeats the form of the damage agent in the compressed state and thereby keeps it in the shell, said spring is fastened in the segments of the muzzle wad, the damage agent is inserted therein, the spring is elastically deformed by compressing it and fixing inside it the damage agent, and it is inserted in the compressed state in the ammunition.

In order to fasten several bullets in the ammunition, a through bottom wad is further produced having the openings for the surfaces of the bullets' empennage, said wad is inserted in the ammunition in such a way that the wad is inserted between the propelling charge and the bullets' central parts, the surfaces of the bullets' empennage fit into the wad's openings, and the bullets' empennage protrude beyond the wad's boundaries and are inserted in the propelling charge's material.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig.1 illustrates the scheme for producing a bullet according to the claimed method.

Fig 2 illustrates the scheme of longitudinal clamping a blank between two crimping matrixes.

Fig 3 illustrates a bullet with an extractor in the form of an aerodynamic needle.

Fig. 4 illustrates the ammunition with muzzle wads and a bullet having an extractor in the form of an aerodynamic needle and the ammunition in which the damage agent is further fastened with a spring.

Fig. 5 illustrates multi-bullet ammunitions with bullets fastened into through the bottom wads, and single-bullet ammunitions.

#### CITED REFERENCES

1. US Patent 3846878, IPC 7B21K 21/06, published on November 12, 1974.
2. US Patent 5515785, IPC 7F42B 12/00, published on May 14, 1996.
3. US Patent 5239928, IPC 7 F42B 7/10, published on August 31, 1993.